

thartics, with every means which I supposed might enter into a palliative or curative course of treatment. At length I resolved on a mercurial course, notwithstanding the extremely low state of the patient, and to my great satisfaction, this troublesome and distressing symptom subsided, as soon as I had carried it to the point of gentle and moderate salivation.

Health was gradually restored, and at this date, (about two years since the period of the attack,) my former patient is a tolerably healthy lad, subject, however, more than ordinarily, to attacks of colic and other bowel complaints.

Sodus, N. Y. Sept. 29, 1829.

ART. IX. *On the Climate and Diseases of Washington County, Ohio.* Read before the Twelfth Medical Society of Ohio, at their Semi-annual Meeting, in Athens, November 3d, 1829. By S. P. HILDRETH, M. D. President of the Society. (Communicated for this Journal.)

THE County of Washington is bounded on the north and north-east by Morgan and Munroe Counties; south-east and south by the Ohio river, and west by Athens County. It is forty three miles in length, from east to west, and twenty-two miles in breadth, from north to south, becoming narrower at the eastern extremity. It contains about six hundred square miles, and a population of eleven thousand. The face of the country is uneven and broken, affording but few tracts of level land, remote from the borders of the streams. The inhabitants are mostly from New England, or descendents of New England parents, and still retain their habits of morality, industry, and frugality. The dwelling houses are generally good and comfortable, being built either of bricks, frames, or hewed logs, and contain most of the articles necessary either for health or convenience. Since the first settlement of the county, in the year 1788, great improvements have been made, not only in clearing lands, but in planting orchards, and constructing highways and bridges. The soil, though broken, is fertile, producing all the crops of the climate in abundance. Not more than one-eighth of the land is yet under cultivation; the balance is covered with forest trees; the hills principally with the different varieties of oak, and the bottom lands with beach, sugar maple, and sycamore. From a deficiency of springs,

the streams of water become low in summer. The water is impregnated with carbonate of lime, and is what is called hard; in the uplands, it is obtained by digging from twenty to fifty feet—in the Ohio and Muskingum bottoms it is found at about forty feet, and is generally pure and pleasant.

The county is situated in latitude $39^{\circ} 25'$, N. and longitude $4^{\circ} 28'$, west of Washington City. The climate, however, is milder by two degrees, than the same parallel east of the Alleghany mountains. This difference may be in part accounted for from the general prevalence of southerly and westerly winds, and from there being no high lands in that direction, to reduce the temperature of the air. The soil also being of an argillaceous and loamy quality is more retentive of caloric than a gravelly and rocky soil. The mean annual temperature is about fifty-five degrees of Fahrenheit; while the same parallel, east of the mountains, is about fifty-three degrees. The temperature of our deepest wells, corresponds with the mean thermometer. The temperature is subject to extreme variations, but they are of short duration; very cold or very hot weather continuing for a few days only. The thermometer has been known to rise to $99\frac{1}{2}^{\circ}$ in summer, and to sink to 22° below zero, in the winter, making a range of 121° . Tuesday, the 3d of February, 1818, the snow fell to the depth of twenty-six inches, and lay on the ground for two or three weeks. The 10th of that month, at half past six o'clock in the morning, the thermometer sunk to 22° below zero; on the 9th it was 20° below; and by the 12th the weather was quite mild—a thick vapour, like steam from boiling water, arose from the Ohio river, which was full of floating ice; this vapour soon congealed and fell in large flakes of snow all over the low lands near the river, affording the novel spectacle of a shower of snow from a clear sky. Nearly all the peach trees were killed to the surface of the snow, and were cut down the following spring. Many trees and shrubs of the forest perished with this unusual degree of cold. In common winters, the thermometer does not fall to zero, and seldom so low as to destroy the embryo buds of fruit trees.* From an average of four years, I find there are fifty-four days in the year on which the mercury falls below 50° , and seventy-nine days on which it rises above 80° . The hottest part of the day in summer is between three and four o'clock, P. M. the coolest, just before sunrise. The coldest month is January; but the greatest depressions of temperature are in February, as in this month

* It has been ascertained that 6° below zero, will kill the fruit buds of the peach.

we usually have the deepest falls of snow. Our snows are generally but a few inches in depth, and lay on the ground but a few days: the greatest falls are commonly with wind at the north-west. In cold and dry winters, our rivers are obstructed and sometimes closed with ice; but if the winter is wet, the rivers remain open and sometimes entirely free from ice. From the fore part of April to the last of May, we usually have delightful and serene weather. In October and part of November, the weather is mild and fine; in April, untimely frosts often blast the fairest prospects for fruit, while the trees are in full blossom. The hottest month is August, but the thermometer rises highest during the last of June or fore part of July—thus, on the 11th, and 12th of July, 1818, the mercury stood at 99° in the shade, and at 138° in the sun. The hottest days are often followed by cool nights; and there are few days and nights in which the heat is nearly equal. The morning is comparatively cool in the hottest season of the year; probably owing to the humidity of the atmosphere absorbing the free caloric, and descending in dews and fogs; the fogs being confined to the valleys and neighbourhood of water courses. From the vast extent of our forests, covering at least three-fourths of the country, the air must necessarily be more humid than in countries nearly or wholly denuded of trees. The great abundance of forest trees, is doubtless the cause of the greater humidity of the atmosphere in this county, than in the same parallel east of the mountains, especially in Pennsylvania. The quantity of rain which annually falls there, varies from twenty-four to thirty-six inches; while here, on a calculation of eight years, the depth of rain is from thirty-six to fifty inches; the mean depth for that period being forty-three and a half inches. This great humidity of the atmosphere, and long-continued heat of summer, acts on the human frame much like a tropical climate; causing languor and a general debility during the warm months; lessening the muscular powers both of man and beast, and producing fatigue in performing the same amount of labour that may be executed with ease in a dryer atmosphere. In continued moist or wet weather, with the temperature through the day between 80° and 90°, the air is like a vapour bath, and opens the pores of the skin nearly as freely. The air is at the same time more rare, rendering respiration more difficult and laborious, especially in the asthmatic and debilitated. Of the rarity of the atmosphere, we have additional proof in the depressed state of the barometer. East of the mountains, at the same or nearly the same elevation above the level of the ocean, the mean height of the barometer is 30 inches; while in Washington County, the mean height is only 29 $\frac{10}{100}$ inches. Its range, in the three years

I have noted its fluctuations, has been $1\frac{50}{100}$ inch. In the coldest and dryest weather it has risen to $29\frac{70}{100}$ inches; and in storms of wind and rain, it has sunk to $28\frac{20}{100}$ inches. Our seasons vary considerably as to the distribution and quantity of rain; some being more than usually wet, and others uncommonly dry, but never so much so in either extreme, as to destroy all the hopes of the farmer. More injury is sustained from too much than too little rain. It generally rains in gentle showers, and we have seldom those terrible tornadoes which bring devastation and ruin in their train, and which occasionally visit the country east of the mountains. With thunder storms in the summer we sometimes have heavy rains, and much hail, especially in the month of June; but they are rare in this county; and for the past twenty-two years, we have not been visited by one of those tremendous tornadoes which have sometimes visited other parts of the state, sweeping away the strongest edifices like feathers, and scattering the trees of the forest like dust; displaying the power of the Almighty, and the weakness and imbecility of man, in the most awful and impressive manner. In seasons of drought, it has been observed, that when a cloud arises charged with rain, it follows the course of the larger streams of water; dispensing its humid treasures on the bottoms and lands adjacent, but withholding them from the parched and more needy uplands; this is probably occasioned by the ascent of the vapours from the water courses, meeting the humid air of the cloud, and conducting the rain to the earth, or to the formation of rain clouds only in their vicinity. February, April, June, and July, are the months in which there usually falls the greatest quantity of rain, and in January, August, September, and October, the least, although there are exceptions to this rule in some years. The prevailing winds are from the south, south-west, and west; but we have many days in the winter and spring with the winds from the north, north-west, and east. After rains in summer, the wind generally blows from the north, producing a refreshing coolness, and imparting vigour to the enfeebled frame, and I have noticed that our most healthy seasons are accompanied with northern breezes after showers, and in the most sickly, that the wind has still continued from the south. Should the summer months prove very wet and warm, fevers are more common; if very dry and warm, dysentery and diarrhœa predominate. Sudden changes from heat to cold, in August and September, often produce disease, while earlier in the season, before the body is debilitated by the heat of summer, the change is passed without any apparent harm. December, May, and June, are the

most healthy months, and February, March, August, and September the most sickly.

From the foregoing history of our climate, we shall be led to expect some of the diseases both of the tropical and of the arctic regions; accordingly we sometimes meet with the malignant fever of the south in the summer, and the pneumonia and pleurisy of the north in the winter; though happily for us they neither of them prevail as an epidemic. Since the first settlement of the county, many of the diseases have changed their type and character; from the year 1788, the year in which the Ohio company took possession of their purchase, to the year 1807, most of the diseases originated in exposures to wet, cold, hunger, and fatigue, and were generally of an inflammatory nature; such as rheumatisms, pleurisies, peripneumonias, scarlatina, and small-pox. Ophthalmias were also common, and sometimes epidemic. For the first nine years the inhabitants made but little progress in clearing the lands of the gigantic forests which covered the bottoms of the Ohio and Muskingum rivers. The greater part of their time was occupied in building garrisons, stockaded, and block-houses, and watching the movements of the Indians; sometimes their lives were in danger from famine, and sometimes from the rifle and tomahawk of the savage. In the spring and summer of the year 1790, the inhabitants suffered severely from want of wholesome food—very little land had yet been cleared fit for planting, and a severe, and untimely frost in September of the preceding year, having destroyed, or greatly injured the crops of corn at the head waters of the Ohio river, the settlement came near being ruined and broken up; and the Indian war commencing the next year, they still continued to suffer much from want. The savages killed, and drove away many of their cattle, and, continually lurking about the garrisons, prevented the hunters from obtaining a supply of venison and buffaloe, which at that day were more numerous than the domestic cattle at this. In this season of want, I have heard some of our present inhabitants, who were then children, relate with what anxiety from day to day they watched the tardy growth of the corn, beans, and squashes; and with what rapture they partook of the first dish prepared from vegetables of their own raising. The sufferings of the colony would have been much greater, but for the wise and liberal policy of Mr. Isaac Williams, who had raised a fine crop of corn, on the Virginia side of the Ohio river, opposite to Marietta, the year before their sufferings commenced. This corn he distributed at a low price, when it would have commanded dollars per bushel, dividing to each family accord-

ing to their numbers, and when they had no money, selling on credit till they were able to pay. To counteract the depressing effects of want and anxiety on the mind, as well as the body, all kinds of amusements were encouraged by the colonists amongst the young people, especially foot-races, games at ball and dancing, and some of the young females had become so habituated to danger, that nothing pleased them better than a sudden alarm that the Indians were about to attack them, as the confusion and bustle of such a crisis, gave a different train to their thoughts, and a relief to the sameness of a garrison life. This volatility of spirits, I have no doubt, preserved the early inhabitants from many attacks of disease and death. In this period of time, while confined to their block-houses, the settlement at Belpre suffered much from small-pox and scarlatina—many children died; some families lost three or four—the diseases was malignant, and very fatal. Fevers of the remitting type were unknown, or very rarely seen so long as the country was wholly covered with forests. The aborigines were subject to few diseases, and those of an inflammatory nature; produced by their exposures to the vicissitudes of the weather, and unwholesome diet; but were nearly, or altogether, strangers to most of the diseases now common in this country.

Between the years 1797 and 1807, extensive clearings were made, and large tracts laid open to the influence of the sun. Mill-dams were built, and abundant sources for the origin of intermitting and remitting fevers created in the half-cleared lands, undrained swamps exposed to the summer sun by cutting away the trees which preserved them harmless, while shaded by their broad branches, decaying timber and weeds of the most luxuriant growths—all these combined, began to produce disease; and as autumn approached, many pale faces were seen amongst these hardy children of the forest. But the disease was seldom fatal; and a few simple remedies, with a more plentiful and nourishing diet, aided by the invigorating breezes of winter, soon restored their strength.

Phthisis pulmonalis, at this early period, was a disease nearly, or wholly unknown; the invigorating effects of constant exercise, exposures to all kinds of weather, a simple, but nourishing diet, and the enlivening faculties of the mind kept in continual play, forbade the approach of this scourge of indolence, and the refinements of modern fashions. Very few cases of it occurred until after the year 1808—and these did not average more than one death a year in a population of two thousand. Since the years 1815 and 1816, when pneumonia typhoides was so prevalent, consumption has been gradually

increasing, and at this time the average annual amount of deaths is about two in a thousand inhabitants. Some part of the winter preceding the great epidemic of 1807, was remarkable for the severity of the cold. In February, after the fall of a few inches of snow, the Ohio river was frozen across in one night so as to bear the weight of loaded wagons the next morning. The ensuing summer was very wet and warm, and was for many years remembered as by far the most sickly of any since the settlement of the county. This epidemic ravaged the borders of the Ohio river from its mouth to near where it leaves the hilly country of its source. The settlements back from the rivers and creeks were as healthy as usual. In February and March of that year, many cases of pneumonia and catarrh appeared, as is most commonly the fact after severe cold. In June an epidemic ophthalmia prevailed, more especially amongst the children. The Ohio river was at full banks three times in the course of the spring and summer, leaving the low grounds in the bottoms covered with standing water. Much hay and grain were lost from the continual rains in harvest. In July intermitting and remitting fevers began to appear, and by the middle of September, scarcely a family, near the river, for the extent of this county, escaped disease. It was attended with rather a depressed, than excited state of the system, and few of the cases needed, or were benefited by bleeding. But frequent purges, with a free use of bark and alkalies, were generally successful in arresting, and in curing the disease. Cool and frosty nights in October and November put a stop to the epidemic. In October of the same year, influenza reached us in its progress from the east, where it began in August and September. By the first of November it had passed away, visiting nearly every family in the state of Ohio, and western country generally. In December a number of cases appeared with all the marks of a common pleurisy, but would not bear bleeding, and were cured with blisters, and a general stimulating and tonic course. The following winter was mild, and the summer months marked by no prevailing disease. From 1807 to 1813, the county was generally healthy; what few fevers appeared were mostly typhoid. Bilious colic for several years after the epidemic was a very common disorder; it generally gave way to large doses of calomel and opium, and free bleedings. One physician told me he had given half an ounce of calomel at a dose with fine effect; I have seldom found it necessary to use more than two drachms. Phthisis pulmonalis had become more frequent since the influenza, but was still of rare occurrence. In the summer months cholera infantum was common, and frequently fatal. In 1810 and 1811, an

epidemic rabies appeared amongst the dogs, wolves, and foxes—many domestic animals were bitten and died rabid—several persons were bitten, but I do not recollect of any death from this cause; the use of timely remedies doubtless preventing—such as scarifying and cauterizing the part bitten, and pouring over it a large quantity of warm water, slightly alkalized. One case came under my notice, attended with all the symptoms of hydrophobia, which was cured by a free use of calomel and cantharides, producing ptyalism and strangury in a few hours. In 1813, 1814, and 1815, typhus fevers were common in the summer and autumnal months; scarcely a case of purely bilious remitting or intermitting fever appearing in all that period from 1807 to 1817. Pneumonia typhoides was very common in the eastern states, or “spotted fever,” as it was then called, in the years 1812, 1813, and 1814—but did not reach this county till the winter and spring of 1815 and 1816. Unusually cold winters had preceded the disease in the eastern states, the debilitating effects of which were supposed to have been the predisposing cause of the disease. The winters with us being milder, the disease was of a modified character. However, in the winters of the years last named, many cases occurred in the townships of Roxbury, Salem, and Fearing. The disease mostly appeared on the high lands, and rarely in the bottoms; it was fatal in many instances, but more especially so in Roxbury. It caused great fear and dread amongst the people, from its mortality in the eastern states; and even the name of “cold plague” caused the heart to sink, and the tongue to falter. Some light having been thrown on the subject by writers in the periodicals of the day, and being governed in the treatment more by the symptoms than the name of the disease, most of the cases were under the controul of medicine that appeared in this vicinity.

From the year 1817 to 1822, no general epidemic prevailed; the fevers of summer were mostly of the typhous type, and in the winter months inflammatory. The summer of 1821 was quite sickly in some parts of the county, so that there seemed to be a change taking place in the atmosphere preparatory to the great epidemic of 1822 and 1823. These years will long be remembered in the annals of the county as by far the most disastrous of any since its settlement. That of 1822 appears to have been aggravated by the very low, stagnant, and putrid state of the water in the rivers and creeks. The Ohio river, for two or three months, more resembled a long slimy lake, than the waters of a living and moving stream, while that of 1823 seems to have been increased by continued and excessive rains, filling all the low grounds with standing water. This fever was of all grades, from the

mild intermittent to the malignant yellow fever. In those two years this county suffered a loss of not less than four hundred lives. So general was the sickness of 1823, that at the general election in October, for state officers, the county gave but three hundred and ninety votes out of twelve or fourteen hundred usually given.* The year 1824 was comparatively healthy, though there were many cases of measles, scarlatina, and chicken pox, a class of diseases which often precede or follow great epidemics. Enlargement of the spleen was very common for one or two years, in persons who had suffered much from intermittents. From 1824 to 1829, the county has been generally very healthy. Since those great epidemics, dyspepsia and a diseased state of the liver has been more common than formerly, and frequently in persons who had escaped an attack of the fever, indicating that the latent cause of the epidemic pervaded the system of every one, showing itself subsequently in derangement of the liver, stomach, &c. Dropsies and consumptions have also been more common than they were before the year 1822. Measles and whooping-cough generally make their appearance at intervals of eight and ten years. Scarlatina has visited us but twice in twenty-three years. Small-pox has been kept away by vaccination, which has been very generally adopted since the year 1809; at that period a few cases occurred at Waterford, and a pest house established; but a general vaccination taking place, the disease ceased, and has rarely been seen in the county since. Bilious colics are more rare than they formerly were. Calculous complaints are not common, probably owing to there being more distilled and less fermented liquors used by the inhabitants. Apoplexies and palsies are rare, probably from the same cause, as no people suffer more from these diseases than the inhabitants of Great Britain, who drink large quantities of beer and porter. In the winter and spring months, cynanche trachealis is very common amongst children under three years of age, who also suffer much from dentition and intestinal worms. That long train of nervous disorders, so common amongst the females of a more refined and luxurious society, has not reached us as yet, nor will it so long as they continue to nurse their own children, attend to their own domestic concerns, and in their dress, diet, &c. pay more respect to the dictates of nature than to the whims of fashion.

Rheumatism is a disease more common, but still rare, when compared with more northern countries. Scrofulous affections are more

* A history of this epidemic was published in the *Philadelphia Journal of the Medical and Physical Sciences*, Vol. IX. page 105.

frequent than they formerly were, and will probably continue to increase as the county becomes more highly cultivated, and people more luxurious in their habits. An early decay of the human teeth is a complaint often heard; it generally arises from a diseased state of the gums, probably originating in a bad condition of the digestive organs. I have found it hard to remedy, and think it a subject worthy the attention of the medical faculty. Gout is a disease of much notoriety in many parts of the world, but as yet entirely unknown to the native inhabitants of this county. Parturition is effected here with as little suffering as in any of the middle or eastern states; convalescence is rapid, and in a few days the female, if healthy, is able to attend to her domestic concerns. Puerperal fevers are far less common than in more populous places. It has been often remarked that females who had long been barren, soon became the mothers of children on removing to the state of Ohio; but this probably arises more from the invigorating effects of the journey, than any medicinal quality in the water or air. Traumatic tetanus, or tetanus of any kind, is a rare occurrence; and in a practice of twenty-three years, I have not seen more than three or four cases. Diseases of the skin are very common; such as rashes, several varieties of psoriasis and herpes; and in the course of this spring and latter part of the winter, I have seen many cases of "*Dengue*," modified by the climate, but possessing all the characters of the disease, severe pain and swelling in the joints, preceded by high fever and eruption on the skin. It was by many called measles, and rash, but as often attacked persons who had passed through these diseases as those who had not. It was common, so far as I can learn, all over the western states.

Marietta, Ohio, Nov. 1829.

ART. X. *Reports of Cases treated at the Baltimore Alms-house Infirmary.* By THOMAS H. WRIGHT, M. D. Physician to the Institution.

CASE I. *Chronic Induration of the Stomach.*—Charles Murray, aged forty-three, tall, spare person, dark complexion, hair and eyes, entered the Alms-house infirmary, March 20th, 1829. Symptoms when admitted: Chronic pain of the stomach and bowels; pain remittent, and in some degree periodical, occurring chiefly towards night, always commencing in the stomach, and propagated to the bowels; borborygmus; the whole paroxysm resembling very much a fit of